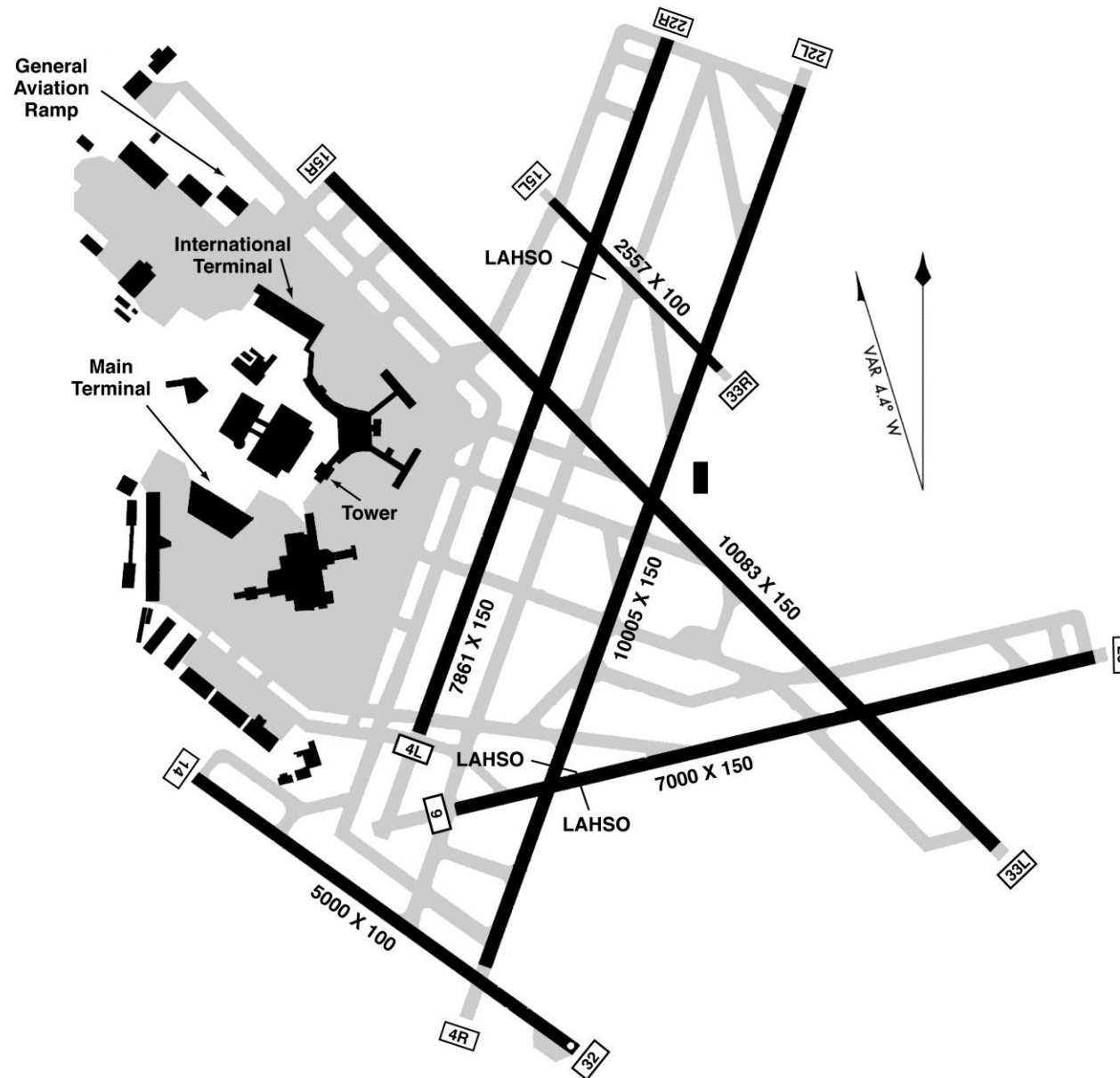


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Airport capacity profile estimates were created using a standard set of performance characteristics and do not take into account non-runway constraints, unless otherwise noted. The capacity estimates developed for this report are not intended to replace the results of any detailed analysis that would precede an environmental, investment, or policy decision.

The list of Future Improvements and their expected effects on capacity does not imply FAA commitment to, or approval of, any item on the list.

DEFINITION

- The capacity profile shows the hourly throughput that an airport is able to sustain during periods of high demand, represented as the range between the model-estimated capacity and the ATC facility reported rate (called rate). Each weather condition has a unique capacity rate range.
- The following charts compare actual hourly traffic with the estimated capacity curves for BOS. Some hourly traffic points fall outside the estimated capacity curves. There are many reasons why this may occur without affecting operational safety. For example, more aircraft may have been able to use Runway 4L/22R than were assumed in the analysis. Also, actual weather may have been better for part of the hour than that recorded for the hour, allowing more efficient ATC procedures than were modeled.

RECENT CAPACITY IMPROVEMENTS AT BOS

- In 2006, BOS commissioned a new runway, 14/32, which is primarily used to improve operations in Northwest wind conditions.
- Implementation of Traffic Management Advisor (TMA) helps to improve the flow of arrivals to the runways.

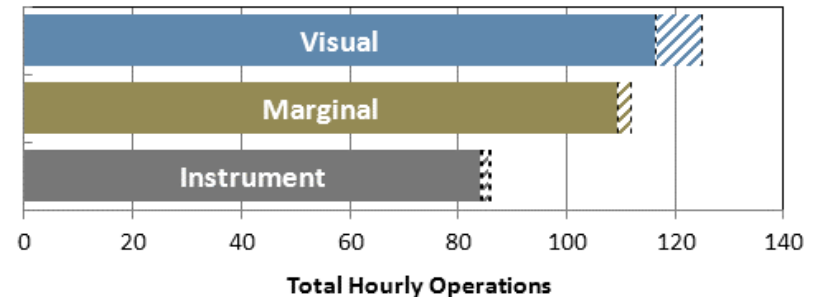
FUTURE IMPROVEMENTS AT BOS

- Improved Runway Delivery Accuracy:* The combined effects of several new capabilities, including ADS-B Out, CDTI, and TBM in the terminal area, will improve the ability of controllers by 2020 to deliver aircraft to the runway with the desired separation from the preceding aircraft. This will reduce the average spacing between arrivals and boost arrival capacity.
- Wake Turbulence Mitigation for Departures (WTMD)* is anticipated to be available at BOS by 2020. WTMD will eliminate the need for wake vortex separation behind a B757 or Heavy aircraft departing on the adjacent closely-spaced runway when specific wind conditions exist that reduce the vortex hazard.
- Wake Turbulence Mitigation for Arrivals – System (WTMA-S)* is anticipated to be available at BOS by 2020. WTMA-S will employ a wind forecasting algorithm to allow reduced separation between BOS's closely-spaced parallel arrivals under specific wind conditions. However, it does not apply to the profiled configuration in Marginal conditions.
- Improved Parallel Runway Operations:* Will allow BOS to conduct Simultaneous Offset Instrument Approaches (SOIA) in Marginal conditions. However this future improvement does not apply to the profiled configuration.
- Additional information on these improvements may be found in this report under "Future Operation Assumptions."

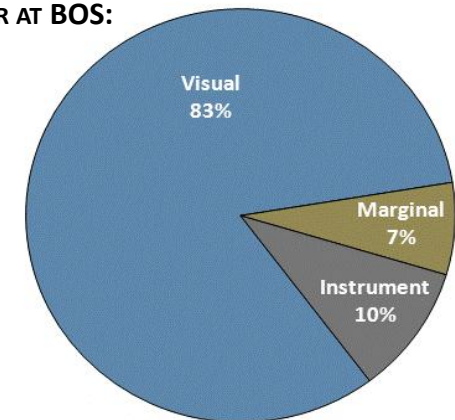
DATA SOURCES

- Actual hourly BOS operations, weather and configuration data were obtained from the FAA ASPM database, and represent operational hours from 7am to 11pm local time for all of Fiscal Years 2009 and 2010. Actual configuration usage is determined by multiple operational factors, including weather conditions.
- Facility reported rates were provided by ATC personnel at BOS.
- Model-estimated rates are derived from operational information provided by ATC.

CURRENT OPERATIONS CAPACITY RATE RANGE



ANNUAL WEATHER AT BOS:



VISUAL CONDITIONS:

- Ceiling and visibility allow for visual approaches: at least 2500 feet ceiling and 3 miles visibility

MARGINAL CONDITIONS:

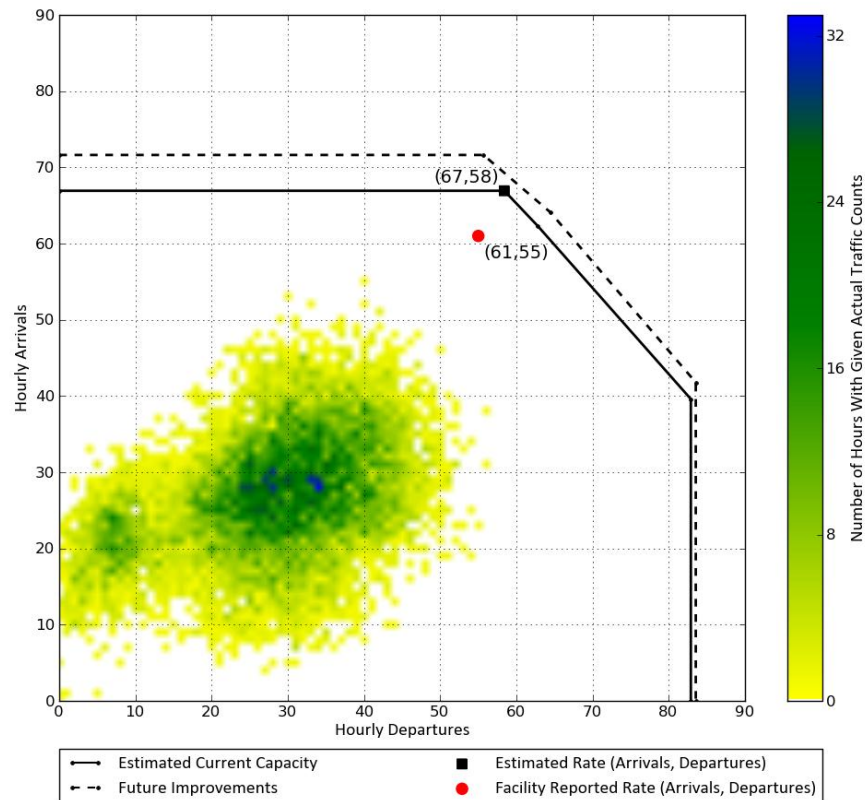
- Ceiling and visibility below visual approach minima but better than Instrument conditions

INSTRUMENT CONDITIONS:

- Ceiling and visibility below 1000 feet ceiling or 3 miles visibility

BOS Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	4R, 4L	4R, 4L, 9	Visual Approaches, Visual Separation	116	125
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy WTMD	4R, 4L	4R, 4L, 9		N/A	128

VISUAL WEATHER CONDITIONS



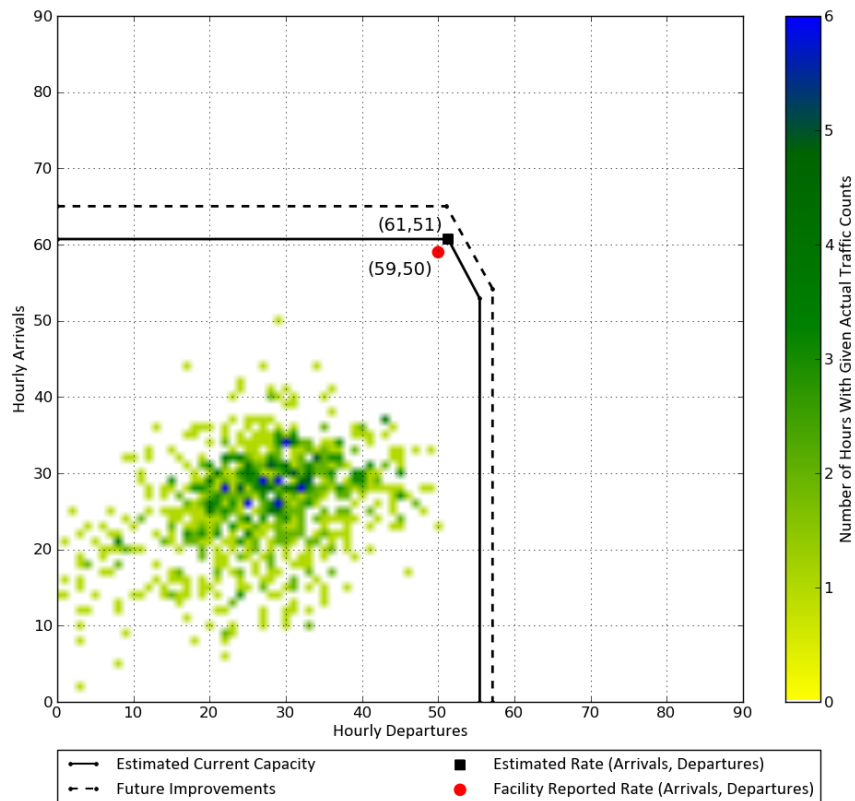
- The capacity rate range in Visual conditions is currently 116-125 operations per hour.
- The airport operates in variations of this configuration approximately 21% of the time in Visual weather conditions (totaling 17% annually). BOS changes configurations frequently in response to shifting winds. The configuration variations are primarily attributed to the use of different departure runway combinations. A three runway configuration, such as this one, offers the best capacity.
- Departures on Runway 4L at BOS's are constrained by decibel level noise restrictions.
- BOS's departure capacity is limited by procedures required for noise abatement by jet departures.

MARGINAL

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BOS Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	22L, 27	22R, 22L	Instrument Approaches with LAHSO, Visual Separation	109	112
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy WTMD	22L, 27	22R, 22L		N/A	116

MARGINAL WEATHER CONDITIONS



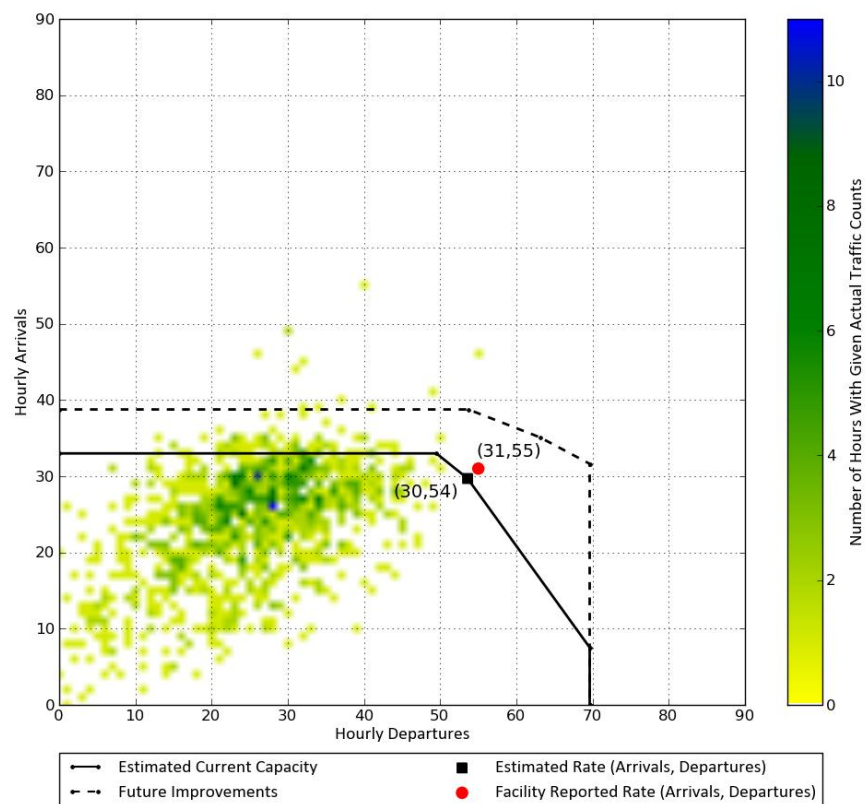
- The capacity rate range in Marginal conditions is currently 109-112 operations per hour.
- BOS operates in this configuration approximately 6% of the time in Marginal weather conditions (totaling less than 1% annually). BOS changes configurations frequently in response to shifting winds. A three runway configuration, such as this one, offers the best capacity.
- BOS utilizes land and hold short (LAHSO) for arrivals on 22L and 27.
- Reduced separation (2.5 NM) between arrivals is authorized for approaches to Runway 22L and 27 at BOS.
- BOS's departure capacity is limited by procedures required for noise abatement by jet departures.

INSTRUMENT

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BOS Scenario	Arrival Runways	Departure Runways	Procedures	Hourly Rate	
				ATC Facility Reported	Model-Estimated
CURRENT OPERATIONS	4R	4R, 9	Instrument Approach, Radar Separation	86	84
FUTURE IMPROVEMENTS Improved Runway Delivery Accuracy WTMA-S	4R, 4L	4R, 9	Dependent Instrument Approaches, Radar Separation	N/A	98

INSTRUMENT WEATHER CONDITIONS



- The capacity rate range in Instrument conditions is currently 84-86 operations per hour.
- BOS operates in this configuration approximately 35% of the time in Instrument weather conditions (totaling 4% annually).
- Reduced separation (2.5 NM) between arrivals is authorized for approaches to Runway 4R at BOS.
- BOS's departure capacity is limited by procedures required for noise abatement by jet departures.
- In the future, WTMA-S would enable the use of a second, dependent arrival stream, assuming that a precision approach capability is established on Runway 4L to support this procedure.